

REMARKS

The present invention relates to a tube bending fixture. The fixture includes a frame having both a lower and upper tube support pivotally mounted to the frame. A plurality of lower mandrels are mounted to the lower tube support and, similarly, a plurality of upper mandrels are mounted to the upper tube support so that one upper mandrel is aligned with one lower mandrel on the bending fixture. In this way, a plurality of tubes may be simultaneously mounted to the fixture and bent at the same time.

A first gear 70 is secured to the lower tube support 30 while, similarly, a second gear 72 is secured to the upper tube support 50. These gears 70 and 72 are in mesh with each other so that the lower tube support 30 and upper tube support 50 pivot in unison with each other relative to the frame 22. The simultaneous pivoting of both the upper tube support 50 and lower tube support 30 advantageously promotes a uniform bend of the tubes mounted to the tube bending fixture 20.

A lock mechanism 74 selectively retains the upper and lower tube supports 50 and 30, respectively, in their pivoted position to allow the tubes to "set" as desired.

Claim 1, the only independent claim in this application, has now been amended in an effort to more clearly define Applicant's invention over the prior art references of record. In particular, claim 1 has now been amended to clarify that the tube bending fixture of the present invention simultaneously bends a plurality of tubes mounted between the upper and lower tube supports. Claim 1 has also been amended to incorporate the limitations of claim 2, i.e. the gears 70 and 72, with additional language to clarify that the upper and lower tube supports 50 and 30, respectively, pivot in unison with each other relative to the frame 22.

The Patent Examiner, however, has rejected previously submitted claim 2 as anticipated under 35 U.S.C. §102 by U.S. Patent No. 5,290,166 to Heatherly. However, in view of Applicant's amendments to claim 1, Applicant respectfully submits that this basis for rejection can no longer stand.

More specifically, the Heatherly patent admittedly discloses a tube bending fixture having two arms 10 and 11 that are pivotally mounted together by a pivot pin 17; see column 3, lines 6-11. The tube to be bent is mounted to the arms 10 and 11 while a protractor 12 provides a visual readout of the angle of the bend of the tube.

While the Heatherly patent is directed to a tube bending fixture, and thus clearly material to the present invention, its construction is quite dissimilar to Applicant's invention as it is defined in amended claim 1 for several reasons.

First, the bending arms 10 and 11 of Heatherly roughly correspond to the upper and lower tube supports 30 and 50 of the present invention. However, claim 1 clearly defines that these upper and lower tube supports are pivotally mounted to a frame and there simply is no structure in the Heatherly patent which corresponds to Applicant's "frame" defined in claim 1.

Amended claim 1 now clearly sets forth that a plurality of lower and upper mandrels are mounted to the lower and upper tube supports so that multiple tubes can be simultaneously bent. There is no suggestion in the Heatherly patent of any mechanism to bend more than one tube at a time.

Next, claim 1 has been amended to incorporate the limitations of claim 2 which sets forth the gears 70 and 72 which ensure that the upper and lower tube supports pivot in unison with each other relative to the frame. Although the Patent Examiner has suggested in the Examiner's

Office Action that Heatherly discloses such a gear in FIGS. 1A and 1C and column 3, lines 5-23, in fact there is no suggestion, whatsoever, of a gearing arrangement between the bending arms 10 and 11 of Heatherly. Rather, the bending arms 10 and 11 of Heatherly are merely pivotally mounted together by the pivot pin 17. In any event, claim 1 has been amended to clarify that the gears ensure that the upper and lower tube supports pivot in unison with each other relative to the frame. This clearly is not shown or suggested by Heatherly since Heatherly does not even have any structure corresponding to the frame.

In view of the foregoing, Applicant respectfully submits that claim 1, as amended, patentably defines Applicant's invention over the prior art references of record and is, therefore, allowable. All remaining claims depend from 1 and are, therefore, also allowable.

For the foregoing reasons, Applicant respectfully submits that this case is in condition for formal allowance and such action is respectfully solicited.

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Respectfully submitted,

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